Water Quality Criteria and Standards Plan -- *Priorities for the Future*

Office of Water

Office of Science and Technology

December, 1998

Criteria and Standards Plan

- **Why is a Criteria and Standards Plan Needed?**
  - **New science**
    - Integrate chemical, biological, toxicity criteria
  - **Clear goals and program priorities**
    - Support the *Clean Water Action Plan*
    - Help meet GPRA Goals
  - **Unresolved water quality problems**

EPA

Criteria and Standards Plan

- ***Supporting the Clean Water Action Plan:***
  - » ***Principle 1: Strong Water Quality Standards:***
    - – ***Ensure fish and shellfish are safe to eat.***
      - **Criteria for bioaccumulatives (e.g. Mercury)**
    - – ***Ensure beaches are safe for swimming.***
      - **New microbiological criteria and reporting**
    - – ***Restore aquatic health on an ecosystem basis***
      - **Biocriteria, improved aquatic life criteria**
    - – ***Reduce nutrient over-enrichment***
      - **Nutrient criteria**

EPA

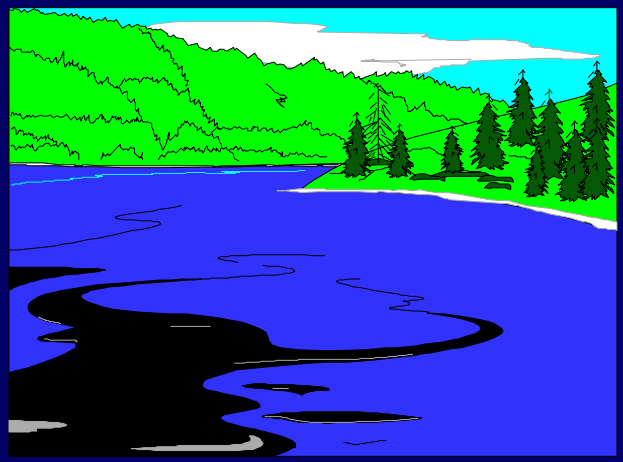
Criteria and Standards Plan

- **GPRA Objectives:**
  - **"By 2005, restore and protect watersheds so that 75% of waters support healthy aquatic communities as shown by comprehensive assessments."**
  - **"By 2005, consumption of contaminated fish and shellfish will be reduced and the percentage of waters attaining designated uses protecting the consumption of fish and shellfish will increase."**
  - **"By 2005, exposure to microbial and other forms of contamination in waters used for recreation will be reduced and the percentage of waters attaining the designated recreational uses will increase."**

EPA

Criteria and Standards Plan

- **Unresolved water quality problems:**
  - Bioaccumulative pollutants
  - Excess nutrient enrichment
  - Microbial infections
  - Loss of biological integrity
  - Excessive sedimentation
  - Habitat damage



EPA

Criteria and Standards Plan

- **What is the Plan?**
  - A vision and strategy for the next decade
  - Scientific and technical direction for the criteria and standards program
  - Basis for improved
  - water quality management-watershed approach

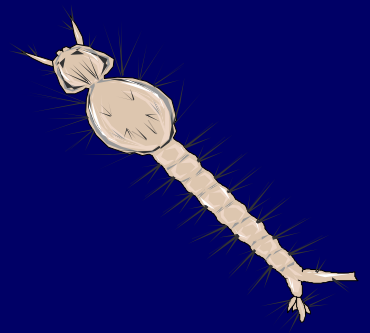
EPA

Criteria and Standards Plan

- ***The "Vision:"***
  - ***The water quality criteria and standards program will fully integrate biocriteria, nutrient criteria and microbial pathogen control with improved chemical-specific criteria, whole effluent toxicity methods and possible sedimentation, flow and wildlife criteria into a criteria and standards program that better supports watershed management for the protection of human health and the maintenance and improvement of the chemical, physical and biological integrity of the Nation's waters.***

Criteria and Standards Plan

- **Seven *Priority Areas* of the Plan:**
  1. **Ambient water quality criteria**
  2. **Nutrient criteria**
  3. **Microbial pathogens**
  4. **Biocriteria**



EPA

Criteria and Standards Plan

- **Seven *Priority Areas* of the Plan:**

  (Continued)

  5. **TMDLs and Modeling**
  6. **Sediment, Flow and Wildlife**
  7. **Implementation**

Priority Areas of the Plan

AMBIENT CRITERIA: **Key Objectives-**

- ***1. Existing chemical criteria and criteria methodologies and whole effluent toxicity methods for the protection of aquatic life will be maintained, updated and improved, where necessary.***
- ***2. Existing human health criteria will be maintained, updated and improved, where necessary.***

Priority Areas of the Plan

- **Key Activities--ambient criteria:**
  - **Revise the aquatic life criteria methodology by 2000.**
  - **Propose 2 - 5 revised aquatic life water quality criteria each year including ammonia, selenium and saltwater dissolved oxygen.**
  - **Publish revised human health criteria methodology in 2000.**
  - **Publish three to five human health criteria guidances annually, including methylmercury and PCBs.**
  - **Publish methodology and implementation guidance for sediment non-ionic organics, metals and PAH mixtures by 2000.**

Priority Areas of the Plan

NUTRIENTS- Key Objectives:

- ***1. EPA will develop the necessary scientific and technical tools so that all States and Tribes can develop water quality criteria for nutrients to provide a basis for the reduction and control of excessive nutrient enrichment.***

Priority Areas of the Plan

- **Key activities-- <u>nutrients</u>:**
  - **Implement National Nutrient Strategy.**
  - **Develop methods so States can derive waterbody-specific nutrient criteria by 2000 (lakes, reservoirs, streams, rivers, wetlands and estuaries)**
  - **Develop national default nutrient criteria ranges by ecoregion for use by the States and Tribes.**

Priority Areas of the Plan

***MICROBIAL PATHOGENS*- Key Objective:**

- ***1. Significantly reduce the risk of infections to users of the Nation's recreational waters.***

Priority Areas of the Plan

- **Key activities-- <u>microbial pathogen</u>:**
  - **Develop new monitoring methods with real-time reporting capabilities**
  - **Develop methods to differentiate between animal and human sources of pathogens**
  - **Develop new generation of microbiological criteria**
  - **Develop new risk assessment methods**

EPA

Priority Areas of the Plan

BIOCRITERIA- Key Objectives:

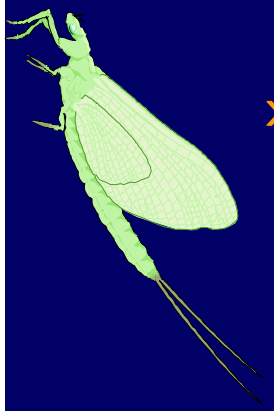
- ***1. Develop bioassessment methods and biocriteria technical guidance for all waterbody types, e.g. lakes, rivers, wetlands, etc., for use by State and Tribal water quality programs for improving aquatic life use designations, assessing attainment of those uses and for making better decisions in water quality protection and restoration.***

- ***2. Support the States and Tribes in their adoption of bioassessments and biocriteria as key components of their water quality programs.***

EPA

Priority Areas of the Plan

- **Key activities-- <u>biocriteria</u>:**
  - **Prepare guidance on bioassessment methods and biocriteria for all waterbody types by 2003.**
  - **Develop stressor identification methods by 2003.**
  - **Prepare guidance on biocriteria use in regulatory programs by 2000.**
  - **Support State/Tribal implementation.**



EPA

Priority Areas of the Plan

TMDLs AND MODELING-

Key Objective:

- ***1. Improve the establishment of TMDLs through improved water quality criteria and modeling techniques.***

Priority Areas of the Plan

- Key activities-- TMDLs and modeling:
  - Enhance BASINS model to include BMP effectiveness, clean and contaminated sediment transport, lake and estuary two-dimensional component.
  - Establish a TMDL modeling hotline to by 1999.
  - Develop and provide technical training on TMDL modeling (1998-on).

Priority Areas of the Plan

SEDIMENTATION, FLOW, AND WILDLIFE-- **Key Objective:**

- ***1. Evaluate <u>possible</u> water quality criteria initiatives for excessive sedimentation, flow alterations and wildlife protection.***

Priority Areas of the Plan

- **Key activities--excess sediment:**
  - **Convene national expert panel to identify possible sedimentation end points and methods for sediment criteria or risk levels.**
  - **Publish the findings of panel.**

Priority Areas of the Plan

- **Key activities--<u>flow alteration</u>:**
  - » **Investigate need for optimum flow guidance, management targets or other measures to protect designated uses of waterbodies.**

Priority Areas of the Plan

IMPLEMENTATION OF THE PLAN-

Key Objectives:

- ***1. By 2005, EPA will complete the scientific, technical and other activities necessary to accomplish the Plan's vision and objectives in cooperation with the States and Tribes.***

Priority Areas of the Plan

- **Key activities-- <u>implementing the Plan</u>:**
  - **Request public comment through ANPRM on possible regulation and policy changes to implement aspects of Plan.**
  - **Communicate objectives to States/Tribes through triennial reviews and other mechanisms.**
  - **Ensure State/Tribal fish advisory programs are in place.**
  - **Publish BEACH action Plan.**

What is the Status of the Plan?

- Interim Final released - June 1998
- August 24-28, 1998--*Water Quality Criteria and Standards Plan Conference*--Phila. PA
- Comment Period until Oct. 16, 1998
- Analyze and respond to comments
- Publish *Final*- Early 1999

What is the Status of the Plan?

- **Public Comments:**
  - 32 sets of comments submitted:
    - 10 States
    - 7 industry groups
    - 4 pseudo gov. orgs.
    - 3 private citizens
    - 3 environ. groups
    - 2 special interest groups
    - 2 agriculture groups
    - 1 local gov.